



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,529	04/13/2004	Bo Jin	CD03021	4879

7590 08/15/2006

WALKER & SAKO, LLP

Suite 235
300 South First Street
San Jose, CA 95113

EXAMINER

LAM, DAVID

ART UNIT

PAPER NUMBER

2827

DATE MAILED: 08/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/823,529	JIN ET AL.	
	Examiner	Art Unit	
	David Lam	2827	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5 and 6 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This office action is in response to amendment file on 5/22/06.
 - Claims 4 and 8-20 have been cancelled.
 - Claims 1-3, 5-7 are pending.

Allowable Subject Matter

2. The indicated allowability of claims 1-3 and 5-7 are withdrawn in view of the newly discovered subject matter of Hashimoto et al. (5,780,910). Rejections based on the newly discovered subject matter as follow.

Drawings

3. The drawing are objected to because In Fig 6C, "614-d" should be change to -- 614-c --. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an

Art Unit: 2827

application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-3, 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Hashimoto et al. (5,780,910).

Regarding to claims 1- 3, Hashimoto et al. disclose a memory cell comprising: a first node (A) for storing a first potential; a second node (B) node for storing a second potential;

Art Unit: 2827

transistor gates formed a gate layer (8, 11); a capacitor (C) having plates coupled between the first node and second node, a portion of at least one plate (16, 19, 41, 42, 61 or 62) of the capacitor comprising a first interconnect wiring (41, 42, 61 or 62 utilized as wiring lines) formed over the gate layer and includes a plurality of conductive layers that interconnects circuit components of the memory cell; a first inverter (Qp2, Qd2) having an input coupled to the first node and an output coupled to the second node; a second inverter (Qp1, Qd1) having an input coupled to second node and an output coupled to the first node; the first node stores a true data value and the second node stores a complementary data value; a first access transistor (Qt1) coupled to the first node; and a second access transistor (Qt2) coupled to the second node. *See at least Figs. 4, 34, 36, 61, for example of Col. 11, lines 24-64, Cols. 20-21, lines 1-67, 1-23, respectively, Cols. 28-29, lines 61-67, 1-67, respectively, and the related disclosure.*

With regard to claims 5, Hashimoto et al. disclose wherein the first conductive interconnect wiring includes a bottom conductive layer (16, 41 or 61), a dielectric layer (18) formed over the bottom conductive layer, and a top conductive layer (19, 42, 62) formed over the dielectric layer, the top conductive layer forming at least a portion of the first plate of the capacitor

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

Art Unit: 2827

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto et al. (5,780,910).

With respect to claim 6, Hashimoto et al. disclose all the limitations as applied to claim 1 above.

Hashimoto et al. fail to specify a second conductive interconnect wiring formed over the first conductive interconnect wiring that forms at least a portion of a second plate of the capacitor.

However, Hashimoto disclose a second wiring layer (L1, L2, or 22D) formed over the first conductive interconnect wiring that forms at least a portion of a second plate of the capacitor.

See at least Figs. 23, 39, for example of Col. 17, lines 13-46, Cols. 23-24, lines 47-67, 1-11, respectively, and the related disclosure.

It would have been obvious to one having ordinary skill in the art at the time of the invention to Hashimoto et al. accordingly by utilizing the second wiring layer in order to provide conductivity between component of the semiconductor memory device.

Allowable Subject Matter

6. Claim 7 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record fails to teach all the elements as applied to claim 6 and further comprising the limitation of claim 7.

Art Unit: 2827

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Lam whose telephone number is 571-272-1782. The examiner can normally be reached on 6:00 – 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarabian Amir can be reached on 571-272-1852. The fax phone numbers for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Lam

August 1, 2006


DAVID LAM
PRIMARY EXAMINER